

IAF SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Sustainable Approaches and Impact of Space Transportation Solutions on Earth + Space Environment
and on General Safety (9-D6.2)

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HOW TO DEVELOP REUSABLE AND SUSTAINABLE LAUNCHER STRUCTURES ?

Abstract

SIRIUS SPACE Services is developing a range of reusable and sustainable launchers. For that purpose we are developing a new mindset to make it real.

When expendable structures were mostly focused on technological innovation to match the mass performance, by opposition the reusable and sustainable launchers shall include new criteria for design and process choices while keeping the mass objective.

We are playing with several lever arms to achieve our goal : - Sustainability of the material (low energy for production, potential bio sourcing, ...) - Carbon footprint as a major design/process criteria - Specification to partners - Pushing the boundaries of the technology - Thinking Damage tolerant - Thinking Quick smart defect control - Maintenance mindset - Efficient recovery system of the structures - Refine the loads to ease the reusability and to get a lightweight design approach

Definitively, the reuse of the launcher is a master game and a real challenge !